

5 AWS Cloud Projects

**for Beginners &
Intermediate Learners**



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5 AWS Cloud Projects for Beginners & Intermediate Learners

Cloud computing skills are in high demand, and gaining hands-on experience is the best way to solidify your knowledge and build confidence. AWS offers a wide range of services, and working on real-world projects can help you understand how they fit together. This ebook is designed for **beginners and intermediate learners** looking to develop their AWS skills, build a portfolio, and work toward AWS certifications.

By completing these projects, you will:

- Gain hands-on experience with AWS services.
- Learn best practices for deploying and managing cloud applications.
- Build a portfolio of projects that demonstrate your skills to potential employers.
- Prepare for AWS certifications by applying theoretical knowledge in real-world scenarios.

Each project in this guide is structured to give you a clear starting point while allowing room for customization and exploration. Let's get started!

How to Use This Guide

This eBook features 5 AWS cloud projects, each with a structured format.

While implementation steps and code are provided, some details are intentionally left open-ended to encourage problem-solving and independent learning - one of the most effective ways to master AWS.

5 AWS Cloud Projects for Beginners & Intermediate Learners

These projects and challenges are just a few examples of the many practical activities students in our [Cloud Mastery Bootcamp](#) tackle to develop strong and differentiated hands-on skills.

IMPORTANT: To access the instructions and code, download your [project zip file here](#): <https://dctpublic.s3.us-east-1.amazonaws.com/5-aws-cloud-projects.zip>

What You'll Need

- **Instructions and code:** Download the [project zip file here](#).
- **AWS Free Tier Account:** Some projects may incur minimal costs beyond the free tier, it's on you to understand AWS billing and ensure you minimize your bills.
- **A public domain registered in Amazon Route 53** (used in a couple of projects).
- Basic knowledge of **AWS CLI**, **AWS Management Console**, and optionally **Infrastructure as Code (IaC)** tools like CloudFormation or Terraform.
- **Microsoft Visual Studio Code (or similar)** for viewing the instructions and code.
- A willingness to **experiment** and **troubleshoot** – this is where the most important learning happens!

5 AWS Cloud Projects for Beginners & Intermediate Learners

Tips for Success

- **Start with beginner projects** before moving to more advanced ones.
- **Document your work** - write about your experiences on GitHub or a personal blog.
- **Optimize costs** - use AWS Free Tier whenever possible and clean up resources after use.
- **Think beyond the guide** - try adding features, optimizing performance, or securing your deployment.

AWS Cloud Project Ideas

Each project follows this structure for easy understanding and implementation. Fill in the details for each project based on your expertise.

Project 1: Create a Web Server on Amazon EC2

- **Skill Level:** Beginner
- **Description:** In this project you will deploy an Apache web server running on an Amazon EC2 instance
- **AWS Services Used:** Amazon EC2

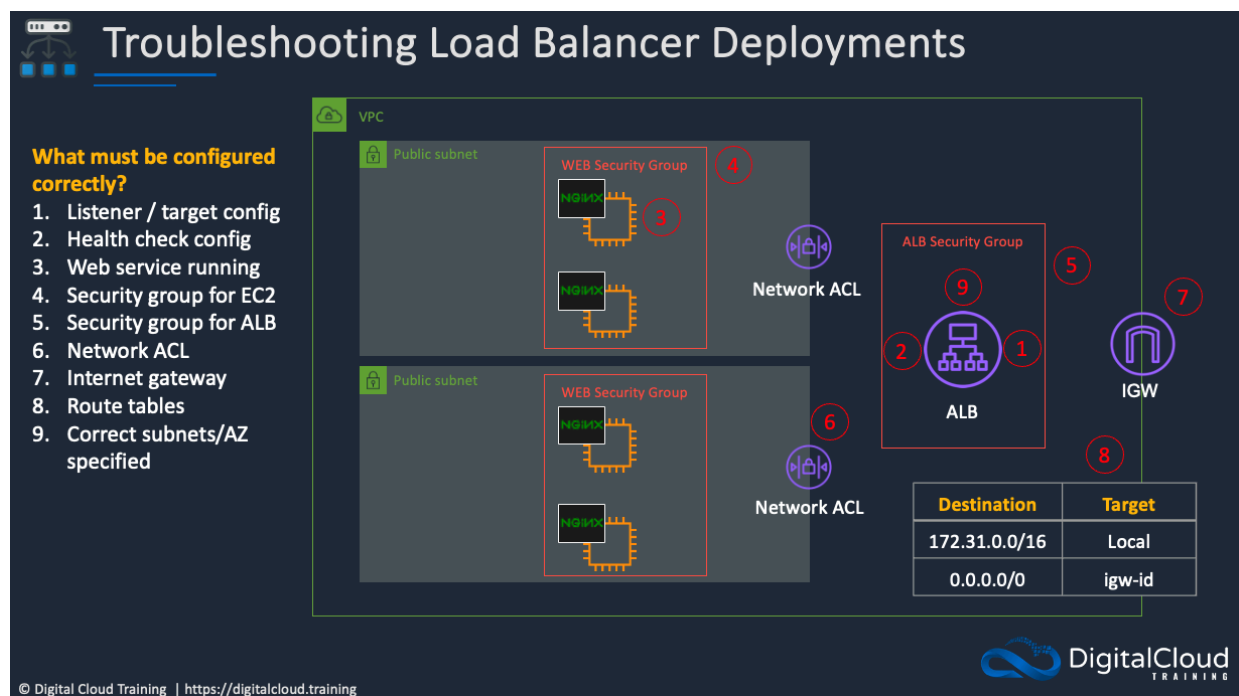
Project 2: Load Balanced Architecture with Advanced Request Routing

- **Skill Level:** Beginner
- **Description:** In this project you will deploy a load balanced application and implement advanced request routing using both path-based and host-based routing
- **AWS Services Used:** Amazon EC2, Amazon ELB, Amazon Route 53

Project 3: Broken Web App Challenge

- **Skill Level:** Intermediate
- **Description:** In this challenge you will use AWS CloudFormation to deploy an application which DOES NOT work correctly. Your job is to fix the deployed application
- **AWS Services Used:** Amazon EC2, Amazon ELB

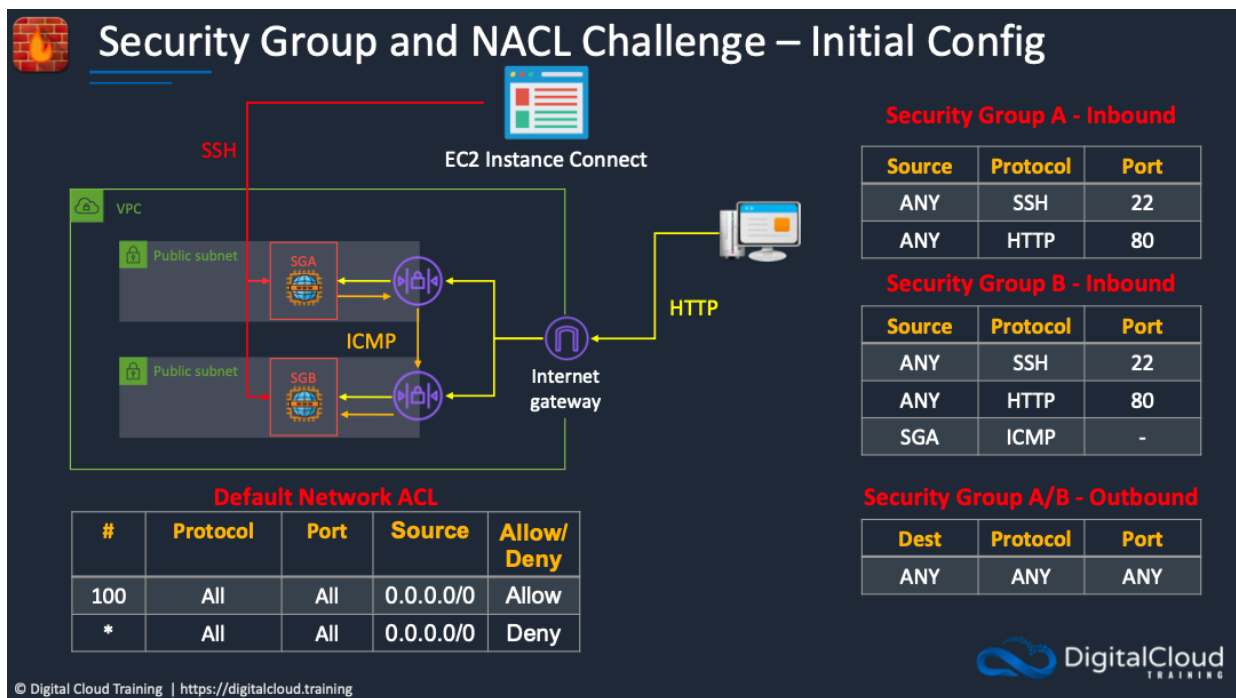
Tips on troubleshooting load balancer deployments:



Project 4: Security Group and NACL Challenge

- **Skill Level:** Intermediate
- **Description:** In this challenge you will create a custom VPC and two security groups. You will then launch EC2 instances and test connectivity using different protocols
- **AWS Services Used:** Amazon VPC, Amazon EC2

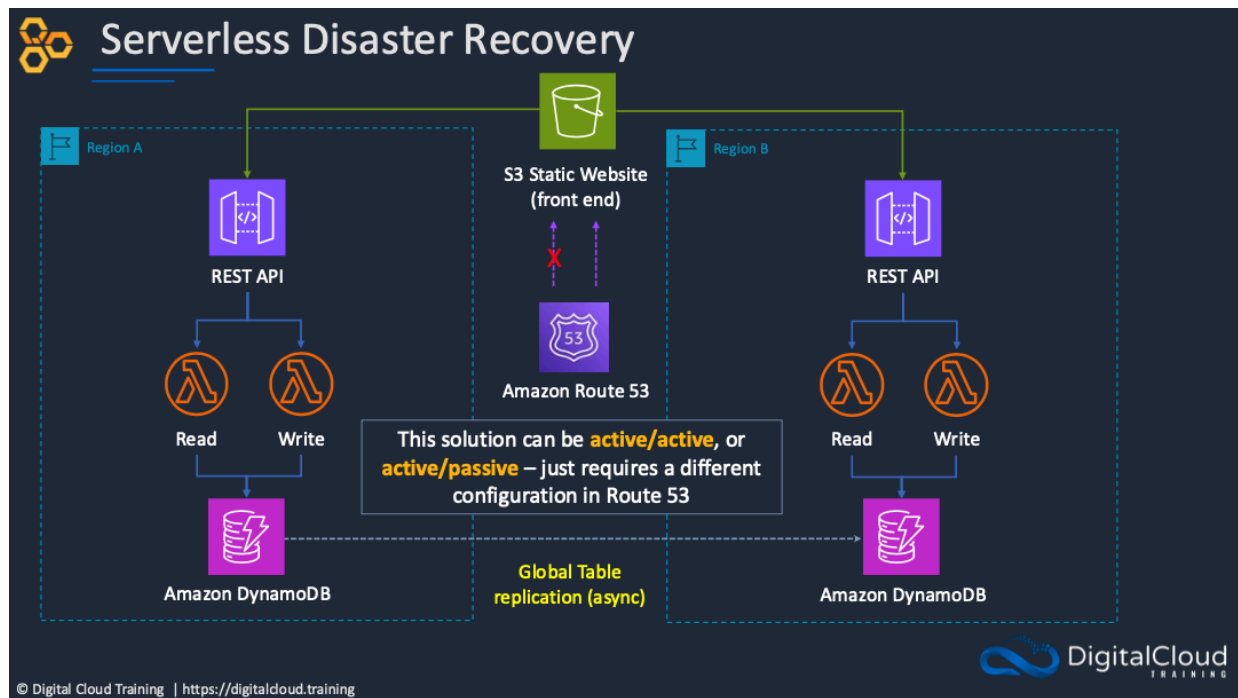
Architecture Diagram:



Project 5: Serverless Cross-Region DR

- **Skill Level:** Intermediate / Advanced
- **Description:** In this more advanced project you will deploy a serverless application that is highly available across multiple AWS Regions and perform a disaster recovery (DR) failover
- **AWS Services Used:** Amazon API Gateway, AWS Lambda, Amazon DynamoDB, Amazon S3, AWS Certificate Manager, Amazon Route 53

Architecture Diagram:



Bonus Section: How to Showcase Your AWS Projects

1. Document Your Projects on GitHub

Employers love seeing real-world projects in action. Creating a repository for each project and including a README file with details about your setup, architecture, and results will help showcase your skills.

What to Include in Your GitHub Repo:

- Project description and objectives
- AWS architecture diagram (if applicable)
- Step-by-step implementation notes
- Code snippets for automation (if used)
- Lessons learned and potential improvements

2. Write a Portfolio Blog Post

Consider writing a blog post about each project and sharing it on platforms like **LinkedIn, Medium, or Dev.to**. This will not only help reinforce your learning but also position you as an AWS practitioner.

Blog Post Structure:

- Introduction: The problem or challenge you addressed
- Solution: How you implemented it with AWS services
- Key Takeaways: What you learned, challenges faced, and how you solved them
- Next Steps: Enhancements you plan to make in the future

3. Share Your Projects on LinkedIn & GitHub

LinkedIn is a great place to gain visibility. Post about your AWS projects and engage with the cloud computing community.

How to Post Effectively:

- Share your project journey, including obstacles and solutions.
- Include screenshots or AWS architecture diagrams.
- Tag AWS-related hashtags (#AWS, #CloudComputing, #DevOps).

Fast-Track Your Cloud Career with the Cloud Mastery Bootcamp

Hands-on AWS experience is key to mastering cloud computing, and if you want to build more real-world skills, gain expert support, and become fully job-ready, the Cloud Mastery Bootcamp is the perfect next step.

When joining the [Cloud Mastery Bootcamp](#), you'll:

- Attend live training sessions with expert instructors throughout the 12-month program
- Work on advanced, real-world AWS projects to deepen your expertise
- Get expert guidance and mentorship to help you overcome challenges
- Receive career coaching and personalized support to land your next-level cloud job
- Join a community of cloud learners for networking and collaboration

With a structured, career-focused approach, this hands-on program will help you accelerate your cloud journey, stand out to employers, and fast-track your career success in the cloud industry.

Explore the [Cloud Mastery Bootcamp](#) now and take the next step toward a high-paying cloud role!



About Digital Cloud Training

At Digital Cloud Training, we offer top-quality training resources to help students thrive in the cloud computing industry. With over 1,000,000 students enrolled in our courses, our goal is to equip learners with the knowledge and skills they need to succeed in their next-level cloud roles.

Our popular training resources include live bootcamps, on-demand video courses, hands-on challenge labs, in-depth training notes and practice exams to assess your exam readiness.

We are proud to be recognized as the 'Best AWS Training and Certification Services Provider' by the Global Excellence Awards.

Visit digitalcloud.training for more information